

DLP TV

SP50L6HD SP56K3HD SP67L6HD

Owner's Instructions

Before operating the unit, please read this manual thoroughly, and retain it for future reference.

Picture In Picture (PIP)

My Colour Control

TELETEXT (Option)

SRS (●)
SRS TruSurroundXT

DNIe™ Digital Natural Image engine

Digital Terrestrial Receiver

This device is a Class B digital apparatus.

Register your product at www.samsung.com/global/register

Contents

♦	CONNECTING AND PREPARING YOUR TELEVISION	_
	■ Checking Parts	5
	Control Panel	6
	Connection Panel Infrared Remote Control Infrared Rem	7 9
	■ Inserting the Batteries in the Remote Control	10
	Connecting to an Aerial or Cable Television Network	11
	Connecting a Satellite Receiver or Decoder	11
	Switching Your Television On and Off	12
	■ Placing Your Television in Standby Mode	12
	Becoming Familiar with the Remote Control	13
	Plug & Play Feature	14
	■ Choosing Your Language	16
♦	ETTING THE CHANNELS (ANALOG TV)	
	Storing Channels Automatically	17
	Storing Channels Manually	18
	Adding / Locking Channels	20
	 Sorting the Stored Channels Assigning Names to Channels 	21 22
	Assigning Names to Channels Using the LNA (Low Noise Amplifier) Feature	23
	Fine Tuning Channel Reception	24
•	JSING YOUR DISPLAY	
	■ Displaying Information	24
	Changing the Picture Standard	25
	Customizing the Picture Settings	26
	■ Setting the Picture (PC Mode)	27
	Selecting the Picture Size	29
	■ Viewing the DNIe Demonstration	30
	■ Freezing the Current Picture	30
	Setting the My Colour Control (Easy Control)	31
	Setting the My Colour Control (Detail Control)	32
	Setting the Blue Screen	33
	Activating Panel Button Lock	33
	Setting the Film Mode	34
		34
	·	
	■ Viewing the Picture in Picture (PIP)	35
	■ Using the Digital NR (Noise Reduction) Feature	37
	■ Changing the Sound Standard	38
	Customizing the Sound Settings	39
	Setting the TruSurround XT	40
	Adjusting the Volume Automatically	40
	Selecting the Internal Mute	41
	Setting the Melody Sound	41
	Selecting the Sound Mode (depending on the model)	42
	Setting and Displaying the Current Time	43
	Setting the Sleep Timer	44
	Switching the Television On and Off Automatically	45
	Viewing an External Signal Source	47
	= Violaning an External Digital Couloc	71

		Press	Important	Note
	Symbols			>
-	Technical Specificat	ions		
			Service Personnel	
RECO	OMMENDATIONS FOR	Use		
	ro iriput iviode			
			ws only)	
	•	•		
			tible	
-	•	, •	tion Multimedia Interface	, ·
•				
-				
	•	•		
			put	
	ITIONAL INFORMATIO			
A =				
-	Selecting a Teletext	Page		
		•		
	G THE TELETEXT FEAT			
	- -			
	Freezing the Current	Picture		
•				
			lenu	
-				
	_			
		-		
			annels	
-	-	-	ne Guide) Information	
-			as Guida) Information	
-				
			y	
-			у	
	G THE DIV FEATURE Previewing the DTV N	Menu System		

Checking Parts



Owner's Instructions



Remote Control/ AAA Batteries



Warranty Card/ Safety Guide Manual (Not available in all locations)



Power Cord

Sold Separately



Replacement Lamp

For purchasing a replacement lamp, ask at a nearby service center.

 Use authorized lamps only. The company cannot guarantee the quality of the product if an unauthorized lamp is used.



S-VIDEO Cable



HDMI Cable



Antenna Cable



Component Cables (RCA)



PC Cable



PC Audio Cable



Scart Cable

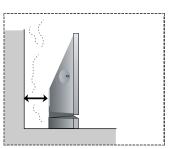


HDMI/DVI Cable



Optical Cable

- When installing the product, make sure to keep it away from the wall (more than 10cm) for ventilation purposes.
 - Poor ventilation may cause an increase in the internal temperature of the product, resulting in a shortened component life and degraded performance.

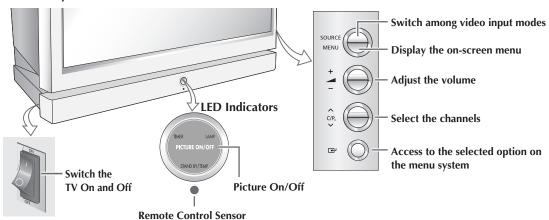


Control Panel

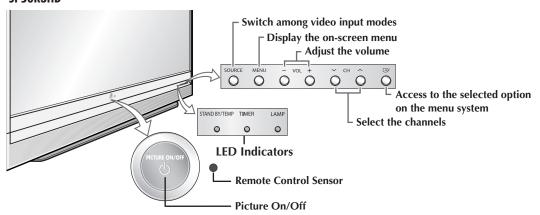
The actual configuration on your TV may be different, depending on your model.

Front of the TV

SP50L6HD/SP67L6HD



SP56K3HD



(●:On, ①:Blinking, ○:Off)

TIMED	LAMD	CTAND DV/TEMD	Indication
TIMER	LAMP	STAND BY/TEMP	Indication
\circ	\circ	•	Standby mode.
•	\circ	\circ	A timer pilot lights when Timer Auto On or Off is selected.
0	0	0	Normal operation.
•	0	0	Normal operation (when Timer Auto On or Off is selected).
0	•	0	Lamp is warming up. The normal picture comes on after 25 seconds.
•	•	0	The normal picture comes on after 25 seconds. (when Timer Auto On or Off is selected)
0	•	•	Air vent cover in the rear of the TV is not properly installed.
0	0	0	Inside temperature of the TV is over normal. Clean the air vent cover in the rear of the TV. Turn the TV back on after 1 hour.
•	•	•	The lamp does not work, please contact an authorized Service Center for assistance.

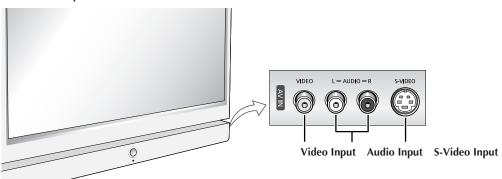
English - 6

Connection Panel

- The actual configuration on your TV may be different, depending on your model.
 - ➤ You can use the channel selection buttons to switch on the TV when it is in standby mode depending on the model.
 - ◆ When using the on-screen menu the volume adjustment and channel selection buttons have the same function as the ▲/▼/◄/▶ buttons on the remote control.
 - If the remote control no longer works or your have lost it, you can use controls on the panel of the TV.
 - Press the "I" side of the POWER switch to supply power to the TV. If the "I" side of the POWER switch is not pressed, the POWER button on the remote control and the Picture On/Off switch on the front panel of the TV will not work.
 - ◆ Press the **MENU** button once in DTV mode, then the DTV menu is displayed.

Side of the TV

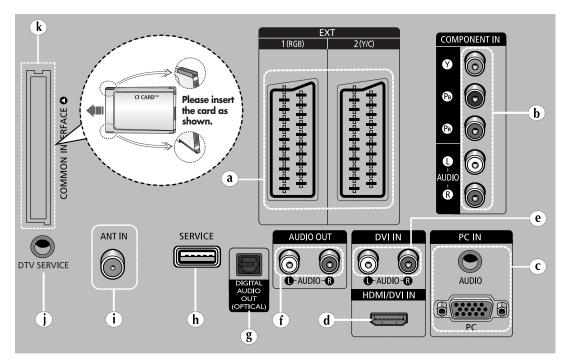
SP50L6HD/SP67L6HD



SP56K3HD



Rear of the TV



a) EXT 1(RGB), 2(Y/C)

Inputs or outputs for external devices, such as VCR, DVD, video game device or video disc players.

b) COMPONENT IN

Video (Y/PB/PR) and audio (AUDIO L/R) inputs for Component.

c) PC IN (PC / AUDIO)

Connect to the video and audio output jack on your PC.

d) HDMI/DVLIN

 Connect to the HDMI jack of a device with HDMI output. These inputs can also be used as a DVI connection with separate analog audio inputs. An optional HDMI/DVI cable will be necessary to make this connection.

When using the optional HDMI/DVI adapter, the DVI analog audio inputs on your TV allow you to receive left and right audio from your DVI device. (Not compatible with PC)

 When connecting this product via HDMI or DVI to a Set Top Box, DVD Player or Games Console etc, make sure that it has been set to a compatible video output mode as shown in the table below. Failure to observe this may result in picture distortion, image breakup or no picture.

Supported modes for DVI or HDMI

	480i	480p	576i	576p	720p	1080i
50Hz	Х	0	Х	0	0	0
60Hz	Х	0	Х	Х	0	0
Component	0	0	0	0	0	0

 Do not attempt to connect the HDMI/DVI connector to a PC or Laptop Graphics Card.
 (This will result in a blank screen being displayed)

e) DVI IN (AUDIO L/R)

DVI audio inputs for external devices.

f) AUDIO OUT

Connect to the external audio amplifier.

g) DIGITAL AUDIO OUT (OPTICAL)

Connect to a Digital Audio Component.

h) SERVICE PORT

Connector for service only.

i) ANT IN

Coaxial connector for Aerial/Cable Network.

) DTV SERVICE

Connector for service only.

k) Common Interface Slot

Insert CI (Common Interface) card into the slot. (refer to page 66) - When not inserting "CI CARD" in some channels, "Scramble Signal" is displayed on the screen.

 The pairing information containing a telephone number, CI CARD ID, Host ID, and other information will be displayed in about 2~3 minutes.

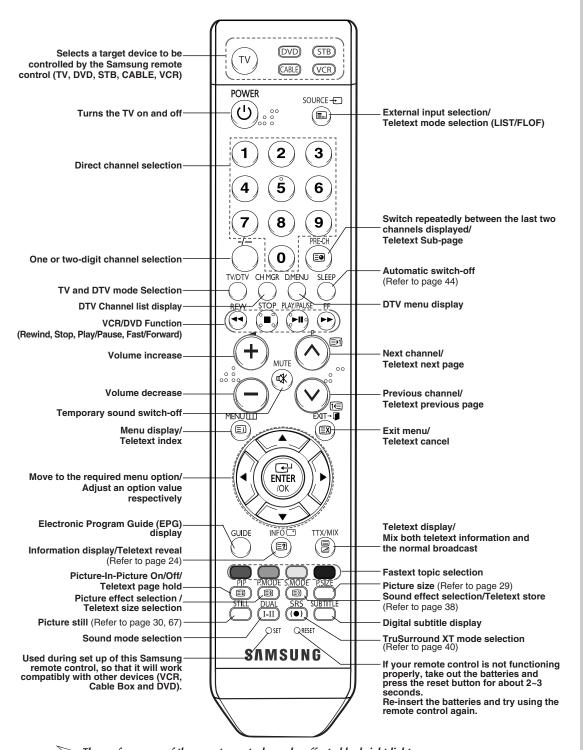
If an error message is displayed, please contact your service provider.

 When the channel information configuration has finished, the message "Updating Completed" is displayed, indicating that the channel list is now updated.

You must obtain a CI CARD from a local cable service provider. Remove the CI CARD by carefully pulling it out with your hands since dropping the CI CARD may cause damage to it.

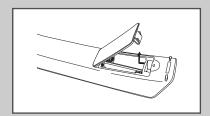
- > For further details about connection, refer to pages 73~76.
- Whenever you connect an audio or video system to your television, ensure that all elements are switched off. Refer to the documentation supplied with your equipment for detailed connection instructions and associated safety precautions.

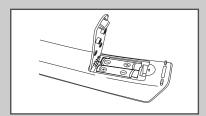
Infrared Remote Control

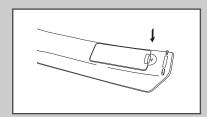


- The performance of the remote control may be affected by bright light.
- This is a special remote control for the visually impaired, and has Braille points.

Inserting the Batteries in the Remote Control







You must insert or replace the batteries in the remote control when you:

- **♦** Purchase the television
- Find that the remote control is no longer operating correctly
- 1 Lift the cover at the back of the remote control upward as shown in the figure.
- 2 Install two AAA size batteries.
 - Make sure to match the "+" and "-" ends of the batteries with the diagram inside the compartment.
- **3** Close the cover as shown in the figure.
 - Remove the batteries and store them in a cool, dry place if you won't be using the remote control for a long time. The remote control can be used up to about 23 feet from the TV. (Assuming typical TV usage, the batteries last for about one year.)

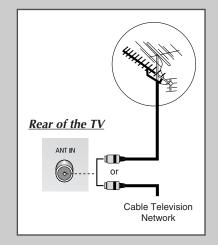
Connecting to an Aerial or Cable Television Network

To view television channels correctly, a signal must be received by the set from one of the following sources:

- ◆ An outdoor aerial
- ◆ A cable television network
- ◆ A satellite network
- 1 In the first three cases, connect the aerial or network input cable to the ANT IN jack on the rear of the television.
- 2 If you are using an indoor aerial, you may need to turn it when tuning your television until you obtain a picture that is both sharp and clear.

For further details, refer to:

- "Storing Channels Automatically" on page 17.
- "Storing Channels Manually" on page 18.
- When installing or re-installing your TV, be sure to use the supplied coaxial antenna cable. If you connect using a different coaxial cable, there is risk of noise or interference to the screen image. (You must not use another general purpose cable. Use the 3M/5M/7M cable supplied by Samsung.)



Connecting a Satellite Receiver or Decoder

In order to watch television programmes broadcast via a satellite network, you must connect a satellite receiver to the rear of TV. Also, in order to descramble a coded transmission signal, you must connect a decoder to the rear of TV.

♦ Using a SCART cable

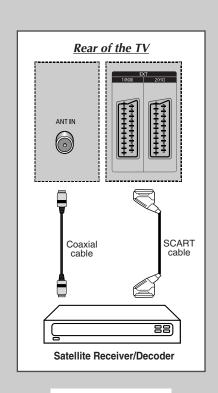
Connect the receiver (or decoder) SCART cable to one of the SCART connectors on the rear of the television.

♦ Using a coaxial cable

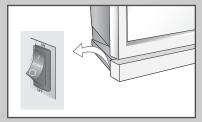
Connect a coaxial cable to the:

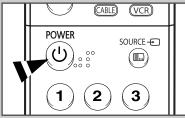
- Receiver (or Decoder) output socket.
- Television aerial input socket.
- If you wish to connect both a satellite receiver (or decoder) and a VCR, you should connect the:
 - Receiver (or Decoder) to the VCR
 - VCR to the television.

Otherwise, connect the receiver (or decoder) directly to the television.



Switching Your Television On and Off







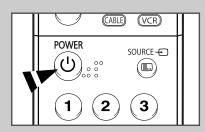
The mains lead is attached to the rear of your television.

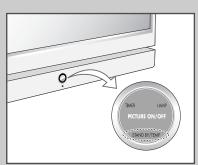
- 1 Plug the mains lead into an appropriate socket.
 - The main voltage is indicated on the rear of the television and the frequency is 50 or 60Hz.
- Press the power switch on the side of the television toward "ON" (I).
- 3 Press the POWER ((w)) button on the remote control (or the button on the front of the television).

Result: The programme that you were watching last is reselected automatically.

- If you have not yet stored any channels, No clear picture appears. Refer to "Storing Channels Automatically" on page 16 or "Storing Channels Manually" on page 18.
- 4 To switch your television off, press the power switch toward "OFF" (O).

Placing Your Television in Standby Mode





Your television can be placed in Standby mode, in order to reduce the power consumption.

The Standby mode can be useful when you wish to interrupt viewing temporarily (during a meal, for example).

1 Press the **POWER** (**((()**) button on the remote control to turn the screen off.

Result: The **STAND BY/TEMP** indicator on the front of the television lights.

- 70 To turn the screen back on, simply press the POWER (0) button again.
 - You can also switch on by pressing the P⊙/⊙, TV/DTV or numeric button.



Do not leave your television in Standby mode for long periods of time (when you are away on holiday, for example). Turn your television off by pressing the power switch on the back of the set. It is best to unplug the set from the mains and aerial.

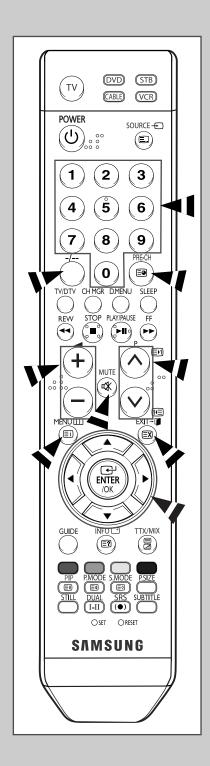
Becoming Familiar with the Remote Control

The remote control is used mainly to:

- ♦ Change channels and adjust the volume.
- ♦ Set up the television using the on-screen menu system.

The following table presents the most frequently used buttons and their functions.

Button	Viewing Function	Menu Function			
P	Used to display the next	_			
\bigcirc	stored channel. Used to display the				
\odot	previous stored channel.	_			
(a) to (b)	Used to display the corresp	onding channels.			
-/	Used to select a channel numbered ten or over. Press this button, and the "" symbol is displayed. Enter the two-digit channel number.				
+	Used to increase the volum	ie.			
\bigcirc	Used to decrease the volur	ne.			
MUTE	Used to switch the sound of	ff temporarily.			
(🕸)	To turn the sound back on, press this button again, or press the 🛨 or 🗀 button.				
MENU (IIII)	Used to display the on-screen menu system.	Used to return to the previous menu or normal viewing.			
	-	Used to: ◆ Display a sub-menu containing selections for the current menu option. ◆ Increase/decrease a menu option value.			
ENTER OK	-	Used to confirm your choice.			
EXIT (→■)		Used to exit from the menu system and return to normal viewing directly.			
PRE-CH	Press the PRE-CH button. The TV will switch to the last channel viewed. To quickly switch between two channels that are far apart, select the first channel, then use the numeric buttons to select the second channel. Then, use the PRE-CH button to quickly alternate between them.				



Plug & Play Feature

















When the television is initially powered on, several basic customer settings proceed automatically and subsequently. The following settings are available.

1 If the television is in standby mode, press the **POWER** (**((()**) button on the remote control.

Result: The message to start Plug & Play is displayed.

2 To start Plug & Play, press the ENTER/OK (←) button.
Result: The Language menu is displayed.

The Language menu will automatically appear after several seconds, even if the ENTER/OK () button is not pressed.

3 Select the appropriate language by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.

Result: The message to check the connected status of the antenna is displayed.

4 Make sure that the antenna is connected to the TV. Press the **ENTER/OK** () button.

Result: The **Country** menu is displayed.

➤ If you do not press the ENTER/OK (→) button, the clock setting menu appears after several seconds.

5 Select your country or area by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.

Result: The menu to select channels is displayed.

6 To start channel store, press the **ENTER/OK** (→) button.

Result: The search will end automatically. Channels are sorted and stored in the order which reflects their position in the frequency range (with lowest first and highest last). When this has finished, the menu to set the time will be displayed.

➤ To stop the search before it has finished or return to normal viewing, press the MENU (□□) or the ENTER/OK (□□) button.

➤ Press the ENTER/OK (→) button to set the clock.

Press the ◀ or ▶ button to select the hour or minute. Set these by pressing the ▲ or ▼ button.

> You can enter the hours or minutes by using the numeric buttons on the remote control.

Press the ENTER/OK () button to confirm your setting. The DTV channel scan menu appears and the DTV channel is automatically updated.

If the DTV channel is updated, the Source in the source list of the Input menu is automatically changed to DTV.

For detailed descriptions about DTV channel update, refer to page 49 of this manual.

If you want to reset this feature...

1 Press the MENU () button.

Result: The main menu is displayed.

This function is not available in DTV and other source modes.

2 Press the ▲ or ▼ button to select **Setup**.

Result: The **Setup** menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ENTER/OK (\bigcirc) button again to select Plug & Play.

Result: The message to start Plug & Play is displayed.

5 For further details on settings, refer to the previous page.





Choosing Your Language





When you start using your television for the first time, you must select the language which will be used for displaying menus and indications.

1 Press the **MENU** () button. The main menu is displayed. Result: 2 Press the ▲ or ▼ button to select **Setup**. The **Setup** menu is displayed. 3 Press the **ENTER/OK** (→) button. 4 Press the \triangle or ∇ button to select **Language**. Press the **ENTER/OK** (→) button. Result: The available languages are listed. 5 Select the appropriate language by pressing the ▲ or ▼ button. Press the **ENTER/OK** () button. 6 Press the **EXIT** button to exit.

Storing Channels Automatically

Not available in DTV or external input mode.

You can scan for the frequency ranges available to you (availability depends on your country). Automatically allocated programme numbers may not correspond to actual or desired programme numbers. However you can sort numbers manually and clear any channels you do not wish to watch.

1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Channel**.

Result: The **Channel** menu is displayed.

3 Press the ENTER/OK (→) button.

Result: The Country is selected.

4 Press the ENTER/OK (→) button again.

Result: The available countrys are listed.

- 5 Select your **Country** by pressing the ▲ or ▼ button.
 - If you have selected the **others** option but do not wish to scan the PAL frequency range, store the channels manually ("Storing Channels Manually" on page 19).
- 6 Press the ENTER/OK () button.
- 7 Press the ▲ or ▼ button to select Auto Store.
 Press the ENTER/OK (→) button.

Result: The **Auto Store** menu is displayed.

8 Press the ENTER/OK () button again to start the search.

Result: The search will end automatically. Channels are sorted and stored in the order which reflects their position in the frequency range (with lowest first and highest last). The programme originally selected is then displayed.

- ➤ To stop the search before it has finished, press the **MENU** (☐) or the **ENTER/OK** (☐) button.
- **9** When the channels have been stored, you can:
 - Sort them in the order required ("Sorting the Stored Channels" on page 21).
 - Fine-tune channel reception if necessary ("Fine Tuning Channel Reception" on page 24).
 - Assign a name to the stored channels ("Assigning Names to Channels" on page 22).
 - Activate/deactivate the Digital NR (Noise Reduction) feature ("Using the Digital NR (Noise Reduction) Feature" on page 37).
 - Activate/deactivate the LNA (Low Noise Amplifier) feature ("Using the LNA (Low Noise Amplifier) Feature" on page 23).









Storing Channels Manually









Not available in DTV or external input mode.

You can store television channels, including those received via cable networks.

When storing channels manually, you can choose:

- ♦ Whether or not to store each of the channels found.
- The programme number of each stored channel which you wish to identify.
- 1 Press the **MENU** () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Channel**.

Result: The Channel menu is displayed.

- 3 Press the ENTER/OK () button.
- 4 Press the ▲ or ▼ button to select Manual Store.
 Press the ENTER/OK (→) button.
 Result: The Manual Store menu is displayed.
- 5 If necessary, select the broadcasting standard required. Press the ▲ or ▼ button to select **Colour System**. Press the **ENTER/OK** (→) button.
- 6 Select the required colour standard by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.

Result: The following options are available.

(depending on the model)

AUTO - PAL - SECAM - NTSC 4.43

- 7 Press the ▲ or ▼ button to select Sound System. Press the ENTER/OK (→) button.
- 8 Select the required sound standard by pressing the ▲ or ▼ button. Press the ENTER/OK (♣) button.

Result: The following options are available.

BG - DK - I - L

- 9 If you know the number of the channel to be stored, see the following steps.
 - ◆ Press the ▲ or ▼ button to select **Channel**. Press the **ENTER/OK** (→) button.
 - Press the ▲ or ▼ button to select c (Air channel) or s (Cable channel).
 - ◆ Press the ▶ button.
 - Press the ▲ or ▼ button to select the required number.
 Press the ENTER/OK (→) button.
 - You can select the channel directly by pressing the numeric buttons on the remote control.
 - If there is abnormal sound or no sound, re-select the sound standard required.
- 10 If you do not know the channel numbers, select Search by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button. Press the ▲ or ▼ button to start the search. Press the ENTER/OK (→) button.

Result: The tuner scans the frequency range until the first channel or the channel that you selected is received on your screen.

- 11 To assign a programme number to a channel, select **Programme** by pressing the ▲ or ▼ button. Press the **ENTER/OK** (←) button.
- 12 Press the ▲ or ▼ button until you find the correct number. Press the ENTER/OK (→) button.
 - You can select the programme directly by pressing the numeric buttons on the remote control.
- 13 To store the channel and associated programme number, select **store** by pressing the ▲ or ▼ button. Set to **o**k by pressing the **ENTER/OK** (→) button.
- 14 Repeat steps 9 to 13 for each channel to be stored.
- 15 Press the EXIT button to exit.

Channel mode

- P (Programme mode): When completing tuning, the broadcasting stations in your area have been assigned to position numbers from P00 to P99. You can select a channel by entering the position number in this mode.
- C (Air channel mode): You can select a channel by entering the assigned number to each air broadcasting station in this mode.
- ◆ S (Cable channel mode): You can select a channel by entering the assigned number for each cable channel in this mode.







Adding / Locking Channels

TV Channel

Country : Belgium Auto Store

Manual Store

Channel Manager

Sort

Name
Fine Tune

LNA : Off

Move I Enter I Return







Not available in DTV or external input mode.

Using the Channel Manager, you can conveniently lock or add channels.

1 Press the **MENU** () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select Channel.

Result: The **Channel** menu is displayed.

- 3 Press the ENTER/OK () button.
- 4 Press the ▲ or ▼ button to select Channel Manager.

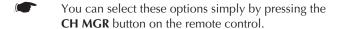
 Press the ENTER/OK (→) button.
 - ♦ Adding channel

Using the Channel Manager, you can add channels.

- 5 Move to the (☐) field by pressing the ▲/▼/◄/▶ buttons, select a channel to be added, and press the ENTER/OK (☐) button to add the channel.
 - ➤ If you press the ENTER/OK () button again, the () symbol next to the channel disappears and the channel is not added.
 - **♦** Locking channels

This feature allows you to prevent unauthorized users, such as children, from watching unsuitable programmes by muting out video and audio.

- 6 Press the ▲ or ▼ button to select **Child Lock**, then press the **ENTER/OK** (→) button.
- 7 Select on by pressing the ▲ or ▼ buttons, then press the ENTER/OK () button.
- 8 Press the ▲ or ▼ buttons to select the **Channel Manager**, then press the **ENTER/OK** (→) button.
- 9 Move to the (♠) field by pressing the ▲/▼/◄/▶ buttons, select a channel to be locked, and press the ENTER/OK (←) button.
 - ➤ If you press the ENTER/OK (→) button again, the (√) symbol next to the channel disappears and the channel lock is canceled.
 - > A blue screen is displayed when **Child Lock** is activated.
- 10 Press the EXIT button to exit.



Sorting the Stored Channels

Not available in DTV or external input mode.

This operation allows you to change the programme numbers of stored channels. This operation may be necessary after using auto store.

1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select Channel.

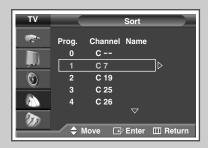
Result: The Channel menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select **Sort**. Press the **ENTER/OK** (←) button.
- 5 Select the channel that you wish to move by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.
- Select the number of the programme to which the channel is to be moved by pressing the ▲ or ▼ button.
 Press the ENTER/OK (→) button.

Result: The channel is moved to its new position and all other channels are shifted accordingly.

- 7 Repeat steps 5 to 6 until you have moved all the channels to the required programme numbers.
- 8 Press the **EXIT** button to exit.







Assigning Names to Channels







Not available in DTV or external input mode.

Channel names will be assigned automatically when channel information is broadcast. These names can be changed, allowing you to assign new names.

- **1** Press the **MENU** (**□**) button.
 - Result: The main menu is displayed.
- 2 Press the ▲ or ▼ button to select **Channel**.
 - Result: The **Channel** menu is displayed.
- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select Name. Press the ENTER/OK (←) button.
 - Result: The Name menu is displayed with the current channel selected.
- 5 Press the ▲ or ▼ button to select the channel to be assigned to a new name. Press the ENTER/OK (→) button.
 - Result: Arrow indications are displayed around the name box.
- 6 Press the ▲ or ▼ button to select a letter (A~Z), a number (0~9), or a symbol. Move on to the previous or next letter by pressing the ◀ or ► button.
- 7 Press the ENTER/OK (→) button.
- 8 Repeat steps 5 to 7 for each channel to be assigned to a new name.
- 9 Press the **EXIT** button to exit.

Using the LNA (Low Noise Amplifier) Feature

This function is very useful in the situation that the TV is used in weak signal. LNA amplifies the TV signal in the weak signal area, a low-noise preamplifier boosts the incoming signal.

- 1 Press the **MENU** () button. The main menu is displayed. Result: 2 Press the ▲ or ▼ button to select **Channel**. Result: The Channel menu is displayed. 3 Press the **ENTER/OK** (→) button. 4 Press the ▲ or ▼ button to select **LNA**. Press the **ENTER/OK** () button. 5 Select **off** or **on** by pressing the \triangle or ∇ button. Press the **ENTER/OK** (→) button.
 - If the picture is noisy with the LNA set to On, select Off.
 - ◆ **LNA** setting is to be made for each channel.

Press the **EXIT** button to exit.

6

 Depending on areas, factory mode of LNA will be set up as On or Off.





Fine Tuning Channel Reception











Not available in DTV or external input mode.

If the reception is clear, you do not have to fine tune the channel, as this is done automatically during the search and store operation. If the signal is weak or distorted, you may have to fine tune the channel manually.

1 Press the **MENU** (**□**) button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select Channel.

Result: The Channel menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select Fine Tune.
 Press the ENTER/OK (→) button.

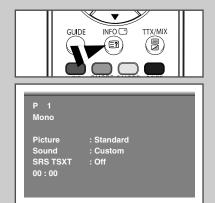
Result: The horizontal bar is displayed.

- To obtain a sharp and clear picture and good sound quality, press the ◀ or ▶ button until you reach the optimal setting.
- 6 To store the fine tuning setting in the TV's memory, press the ENTER/OK (→) button.

Result: The programme number changes to red and is marked with a "*".

- 7 To reset the fine tuning to 0, select **Reset** by pressing the ▲ or ▼ button then press the **ENTER/OK** (→) button.
- 8 Press the **EXIT** button to exit.
 - If you are unable to fine tune a channel, check that the Colour System and Sound System settings are correct.
 - Fine Tune Store will change the colour of the Channel OSD (On Screen Display) from White to Red and add the "*" mark.

Displaying Information



English - 24

You can view the channel information and setting status you have selected by pressing the INFO () button on the remote control. The information displayed varies according to the selected source.

Changing the Picture Standard

You can select the type of picture which best corresponds to your viewing requirements.

1 Press the **MENU** () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Picture**.

Result: The Picture menu is displayed.

3 Press the ENTER/OK (→) button.

Result: The **Mode** is selected.

4 Press the ENTER/OK (→) button again.

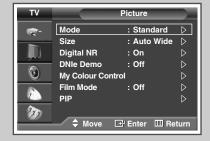
Result: The Mode menu is displayed.

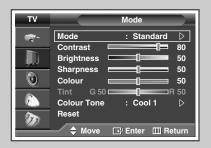
5 Press the ENTER/OK () button.

Result: The following options are available.

Dynamic - Standard - Movie - Custom

- Choose Dynamic for viewing the TV during the day or when there is bright light in the room.
 - ◆ Choose Standard for the standard factory settings.
 - Choose Movie when viewing the movie.
 - Choose Custom if you want to adjust the settings according to personal preference (see "Customizing the Picture Settings", page 26).
- 6 Select the required option by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.
- 7 Press the EXIT button to exit.
 - ➤ You can also set these options simply by pressing the **P.MODE** (■: Picture Mode) button on the remote control.









Customizing the Picture Settings









Your television has several setting options that allow you to control the picture quality.

1 Press the **MENU** () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select Picture.

Result: The **Picture** menu is displayed.

3 Press the ENTER/OK () button.

Result: The Mode is selected.

4 Press the ENTER/OK (→) button again.

Result: The **Mode** menu is displayed.

5 Press the ENTER/OK () button.

Result: The following options are available.

Dynamic - Standard - Movie - Custom

6 Select the required option by pressing the ▲ or ▼ button.

7 Press the ENTER/OK () button.

8 Select the required option by pressing the ▲ or ▼ button.

Result: The following options are available.

 Contrast - Brightness - Sharpness - Colour -Tint (NTSC only)

◆ Contrast - Brightness : PC mode.

9 Press the ENTER/OK () button.

Result: The horizontal bar is displayed.

Press the ◀ or ▶ button until you reach the optimal setting.

➤ Press the ▲ or ▼ button to select other option(s).

 The settings values may vary depending on the input source. (ex. RF, Video, Component, PC, or HDMI.)

10 Press the MENU ([[]]) button to return to Mode menu.

Press the ▲ or ▼ button to select **Colour Tone**.

Press the **ENTER/OK** () button.

11 Select the required option by pressing the ▲ or ▼ button.

Result: The following options are available.

Cool 2 - Cool 1 - Normal - Warm 1 - Warm 2

12 Press the ENTER/OK () button.

To return the factory defaults, select Reset by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.

Result: The previously adjusted settings will be reset to the factory defaults.

The reset function is set for each mode (Dynamic, Standard, Movie, Or Custom).

The reset function is also set for each Colour Tone (Cool 2, Cool 1, Normal, Warm 1, or Warm 2).

14 Press the EXIT button to exit.

Setting the Picture (PC Mode)

- ➤ Preset to the **PC** mode by pressing the **SOURCE** (→) button.
- 1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Setup**.

Result: The **Setup** menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select **PC**. Press the **ENTER/OK** (→) button.

Result: The PC menu is displayed.

- Fress the ENTER/OK (→) button to select Image Lock.
 Press the ENTER/OK (→) button.
- 6 Press the ▲ or ▼ button to select the option (Coarse or Fine) to be adjusted. Press the ENTER/OK (→) button.

Result: The horizontal bar is displayed.

Press the ◀ or ▶ button until you reach the optimal setting.

The purpose of picture quality adjustment is to remove or reduce picture noise.

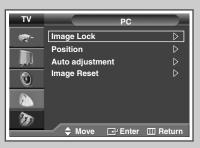
If the noise is not removed by Fine-tuning alone, then adjust the frequency as best as possible (coarse) and Fine-tune again. After the noise has been reduced, re-adjust the picture so that it is aligned on the center of screen.

- Press the ▲ or ▼ button to select other option(s).
- 7 Press the ENTER/OK () button.
- 8 Press the MENU () button.

Result: The PC menu is displayed again.

- 9 Press the ▲ or ▼ button to select **Position**. Press the **ENTER/OK** (→) button.
 - Adjust the PC's screen positioning if it does not fit the TV screen.
- 10 Adjust the position by pressing the $\triangle/\nabla/\blacktriangleleft/\triangleright$ button.
- 11 Press the ENTER/OK () button.









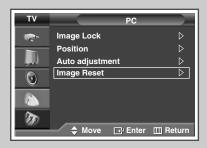




continued...



Auto Adjustment in progress Please wait





12 Press the ▲ or ▼ button to select Auto adjustment. Press the ENTER/OK () button.

Result: The screen quality and position are automatically reset. The settings are all finished, and the TV will automatically return to the previous picture.

To return the factory defaults, select Image Reset by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.

Result: The previously adjusted settings will be reset to the factory defaults.

14 Press the EXIT button to exit.

Selecting the Picture Size

You can select the picture size which best corresponds to your viewing requirements.

1 Press the **MENU** (**)** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select Picture.

Result: The **Picture** menu is displayed.

- 3 Press the ENTER/OK (←) button.
- 4 Press the ▲ or ▼ button to select **Size**. Press the **ENTER/OK** (→) button.
- 5 Select the required option by pressing the ▲ or ▼ button.

Result: The following modes are available depending on the mode.

- ◆ Auto Wide : Expanding and pulling up the picture from 4:3 to 16:9 ratio.
- ◆ 16:9
 : Sets the picture to 16:9 wide mode. Press the
 ▶ button. The picture position () and size () adjustment are able in these mode by pressing the ▲ or ▼ button.
- Zoom
 : Magnify the size of the picture vertically on screen. Press the ▶ button. The picture position (□) and size (□) adjustment are able in these mode by pressing the ▲ or ▼ button.
- ◆ 4:3
 : Sets the picture to 4:3 wide mode. Press the
 ▶ button. The picture position (□ , □) and size (□) adjustment are able in these mode by pressing the ▲ or ▼ button.
- > You can select only the 14:9 screen size in the DTV mode.
- When you are satisfied with your setting, press the ENTER/OK () button.
- 7 Press the EXIT button to exit.
 - You can select these options simply by pressing the P.SIZE button on the remote control.
 - If you change the picture size when PIP is On, PIP will automatically be turned Off.
 - ◆ Depending on the input source, the **P.SIZE** options may vary.

Positioning and Sizing the screen using Zoom

- Resizing the screen using the Zoom enables the positioning and sizing of the screen to up/down direction using the ▲ or ▼ button as well as the screen size.
 - Move the screen up/down using the ▲ or ▼ button after selecting the i by pressing the ◄ or ▶ button.
 - Resize the screen vertically using the ▲ or ▼ button after selecting the by pressing the ◄ or ▶ button.
 (Pressing the ▲ button extends it upward and pressing the ▼ button extends it downward.)
 - Screen enlargement operates only in RF/AV/S-video/SD level Component(480i,576i,480p,576p) input modes.



RF/AV/S-Video SD-level-Component Mode



PC Mode





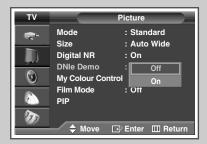
HDMI Mode





Viewing the DNIe Demonstration







This TV includes the DNIe function so as to provide a high visual quality.

If you set DNIe Demo to On, you can view an applied DNIe and a normal picture on the screen, for demonstration purposes. Using this function, you can view the difference in the visual quality.

1 Press the **MENU** () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select Picture.

Result: The **Picture** menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select DNIe Demo.
 Press the ENTER/OK (→) button.
- 5 Select **off** or **on** by pressing the ▲ or ▼ button.

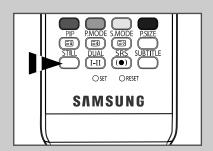
Result: The following options are available.

On : Switches on the DNIe Demo mode.
 ◆ Off : Switches off the DNIe Demo mode.

- 6 When you are satisfied with your setting, press the ENTER/OK (→) button.
- 7 Press the **EXIT** button to exit.
 - > DNIe™ (Digital Natural Image engine) DNIe™

This feature brings you more detailed image with 3D noise reduction, detail enhancement, contrast enhancement and white enhancement. New image compensation Algorithm gives brighter, clearer, more detailed image to you. DNIe™ technology will fit every signal into your eyes.

Freezing the Current Picture



You can freeze the picture when watching a television programme simply by pressing the STILL button. To return to normal viewing, press it again.

In the PIP mode, the main and sub pictures are stilled at the same time.

Setting the My Colour Control (Easy Control)

This feature allows you to adjust colours according to your preferences, by adjusting skin, sky, and grass tones using the predefined settings (Blue, Green, Pink, Standard, and Custom) without affecting other colours on the screen.

1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select Picture.

Result: The Picture menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select My Colour Control. Press the ENTER/OK (→) button.

Result: The Easy Control is selected.

- 5 Press the ENTER/OK () button again.
 - The current image will be displayed on the screen.

Result: The following options are available.

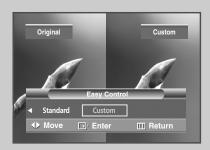
- Blue Emphasizing clear blues.
- Green Emphasizing mild greens.
- Pink Emphasizing warm skin colours.
- ◆ **Standard** Standard picture.
- Custom
 Changing the settings in the Detail Control menu will automatically set to Custom (see next page).
- 6 Select the required option by pressing the ◀ or ▶ button.

Result: The original picture (before adjustment) is shown on the left side, while the selected mode is shown on the right side.

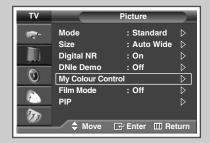
- When you are satisfied with your setting, press the ENTER/OK ((=)) button.
- 8 Press the EXIT button to exit.
 - ➤ The My Colour Control is not available in PC mode.
 - When running the My Colour Control feature, the current picture is captured as a still image before being displayed on the screen.
 - ◆ You cannot use this function, when PIP is On.





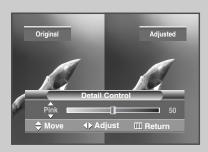


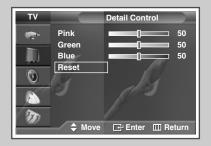
Setting the My Colour Control (Detail Control)











This setting can be adjusted to suit your personal preferences.

1 Press the **MENU** () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select Picture.

Result: The Picture menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select My Colour Control. Press the ENTER/OK (→) button.
- Fress the ▲ or ▼ button to select Detail Control. Press the ENTER/OK (→) button.
- 6 Select the required option (Pink, Green, or Blue) by pressing the
 ▲ or ▼ button. Press the ENTER/OK (→) button.
- 7 Press the ◀ or ▶ button until you reach the optimal setting.

Result: Changing the adjustment value will refresh the adjusted screen.

- Press the ▲ or ▼ button to select other option(s).
- 8 Press the MENU () button.

Result: The **Detail Control** menu is displayed again.

9 To return the factory defaults, select **Reset** by pressing the ▲ or ▼ button. Press the **ENTER/OK** (→) button.

Result: The previously adjusted colours will be reset to the factory defaults.

10 Press the EXIT button to exit.

Setting the Blue Screen

If no signal is being received or the signal is very weak, a blue screen automatically replaces the noisy picture background. If you wish to continue viewing the poor picture, you must set the Blue Screen mode to Off.

1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Setup**.

Result: The Setup menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select Blue Screen.
 Press the ENTER/OK (→) button.
- 5 Select **off** or **on** by pressing the ▲ or ▼ button. Press the **ENTER/OK** (→) button.
- 6 Press the EXIT button to exit.
 - Blue Screen is displayed while there is no signal from the external device in the external mode, regardless of the Blue Screen Setting.





Activating Panel Button Lock

This feature allows you to lock the TV panel buttons so that it cannot be operated via the TV panel. It can, however, till be operated via the remote control. Only remote control can release the panel lock setting, so keep the remote control away from unauthorized users.

- 1 Press the MENU (____) button.
 - Result: The main menu is displayed.
- 2 Press the ▲ or ▼ button to select **Setup**.
 - Result: The **Setup** menu is displayed.
- 3 Press the ENTER/OK () button.
- 4 Press the ▲ or ▼ button to select Panel Lock.
 Press the ENTER/OK (→) button.
- 5 Select off or on by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.
- 6 Press the EXIT button to exit.





Setting the Film Mode



You can automatically sense and process film signals from all sources and adjust the picture for optimum quality.

- 1 Press the MENU () button.
 Result: The main menu is displayed.
- Press the ▲ or ▼ button to select Picture.

 Result: The Picture menu is displayed.
- 3 Press the ENTER/OK (→) button.
- Press the ▲ or ▼ button to select Film Mode. Press the ENTER/OK (→) button.
- 5 Select **off** or **on** by pressing the ▲ or ▼ button.
 - ◆ **off** Switches off the film mode.
 - On Automatically senses and processes film signals from all sources and adjusts the picture for optimum quality.
- 6 When you are satisfied with your setting, press the ENTER/OK (⊕) button.
- 7 Press the EXIT button to exit.
- The Film Mode is not available in PC, Component (except 480i, 576i, 480p, 576p), or HDMI mode.

Using Game Mode





When connecting to a game console such as PlayStationTM or XboxTM, you can enjoy a more realistic gaming experience by selecting game menu.

- 1 Press the MENU () button.

 Result: The main menu is displayed.
- 2 Press the ▲ or ▼ button to select **Setup**. Result: The **Setup** menu is displayed.
- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select Game Mode. Press the ENTER/OK (→) button.
- 5 Select **off** or **on** by pressing the ▲ or ▼ button. Press the **ENTER/OK** (♣) button.
- 6 Press the **EXIT** button to exit.
- To disconnect the game console and connect another external device, cancel game mode in the picture menu.
- If you display the TV menu in Game mode, the screen shakes slightly.
- ➤ Game Mode is not available in TV mode.
- If Game Mode is On :
 - ◆ Picture Mode is automatically changed to Custom and users cannot change the mode.
 - ◆ Sound Mode in the Sound menu is deactivated. Adjust the sound using the equalizer.
 - ◆ The Reset Sound function is activated. Selecting the Reset function after setting the equalizer resets the equalizer setting to the factory defaults.

Viewing the Picture in Picture (PIP)

Not available in DTV mode.

You can display a sub picture within the main picture of a TV program or external A/V devices. In this way you can monitor the video input from any connected devices while watching TV or other video input.

1 Press the **MENU** (**)** button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Picture**.

Result: The Picture menu is displayed.

- 3 Press the ENTER/OK () button.
- 4 Press the ▲ or ▼ button to select PIP. Press the ENTER/OK (→) button.

Result: The PIP is selected.

- 5 Press the ENTER/OK (→) button again.
 To activate, set PIP to on by pressing the ▲ or ▼ button.
 Press the ENTER/OK (→) button.
 - You can select these options by simply pressing the **PIP** () button on the remote control.
- Press the ▲ or ▼ button to select **Source**. Press the **ENTER/OK** (→) button.

Result: The following options are available.

TV - Ext.1 - Ext.2 - AV - S-Video

- The same source cannot be selected on both the main and sub screens. However, the same source can be selected on both the main and sub screens for TV.
- 7 Select a source of the sub picture by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.
- 8 Press the ▲ or ▼ button to select Swap. Press the ENTER/OK (←) button.

Result: The main picture and sub picture are interchanged.

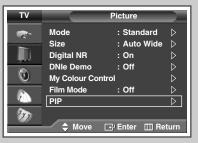
- You cannot use the Swap function for PC, HDMI or Component.
- 9 Press the ▲ or ▼ button to select **Size**. Press the **ENTER/OK** (←) button.

Result: The following options are available.



- You cannot use the Double size (□, □) function for PC or HDMI mode.
- 10 Select a size of the sub picture by pressing the ▲ or ▼ button. Press the ENTER/OK () button.

continued...

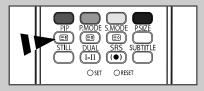
















11 Press the ▲ or ▼ button to select **Position**. Press the **ENTER/OK** (→) button.

Result: The following options are available.

- The **Position** menu is available when the **Size** is or mode.
- Select a position of the sub picture by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.
- 13 Press the ▲ or ▼ button to select **Programme**. Press the **ENTER/OK** (→) button.
- Select the channel that you want to view through sub picture by pressing the ▲ or ▼ button.
 - If the sub picture receives no signal and the main picture is output from a Component, PC or HDMI signal, the sub picture will be blue. If the main picture is output from a Video signal, the sub picture will be black.
- When you are satisfied with your setting, press the ENTER/OK (→) button.
- 16 Press the EXIT button to exit.

> Table of PIP Settings

Sub Main	DTV	TV	AV	Ext.1	Ext.2	S-Video	Component	PC	номі
DTV	Х	Х	Х	Х	Х	Х	Х	Х	Х
TV	Х	Х	0	0	0	0	0	0	0
AV	Х	0	Х	0	0	0	0	0	0
Ext.1	Х	0	0	Х	0	0	0	0	0
Ext.2	Х	0	0	0	Х	0	0	0	0
S-Video	Х	0	0	0	0	Х	0	0	0

- X This PIP combination is not available.
- O This PIP combination is available.

Using the Digital NR (Noise Reduction) Feature

If the signal received by your television is weak, you can activate this feature to help reduce any static and ghosting that may appear on the screen.

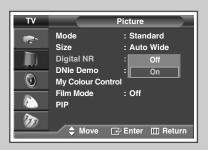
Press the MENU (□□) button.
 Result: The main menu is displayed.
 Press the ▲ or ▼ button to select Picture.
 Result: The Picture menu is displayed.
 Press the ENTER/OK (□□) button.

4 Press the ▲ or ▼ button to select Digital NR. Press the ENTER/OK (←) button.

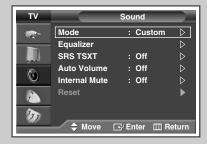
5 Select off or on by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.

6 Press the EXIT button to exit.

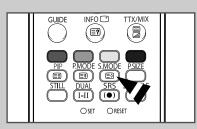




Changing the Sound Standard









You can select the type of special sound effect to be used when watching a given broadcast.

1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Sound**.

Result: The **Sound** menu is displayed.

3 Press the ENTER/OK (→) button.

Result: The **Mode** is selected.

- 4 Press the ENTER/OK () button again.
- 5 Select the required option by pressing the ▲ or ▼ button.

Result: The following options are available.

Standard - Music - Movie - Speech - Custom

- ➤ ♦ Choose Standard for the standard factory settings.
 - Choose Music when watching music videos or concerts.
 - ◆ Choose Movie when watching movies.
 - Choose Speech when watching a show that is mostly dialog (i.e., news).
 - Choose Custom to recall your personalized settings (see "Customizing the Sound Settings", page 39).
- 6 When you are satisfied with your setting, press the ENTER/OK (←) button.
- 7 Press the EXIT button to exit.
 - You can select these options by simply pressing the S.MODE (Sound Mode) button on the remote control.

Customizing the Sound Settings

Your television has several settings which allow you to control the sound quality.

1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Sound**.

Result: The **Sound** menu is displayed.

3 Press the ENTER/OK (→) button.

4 Press the ▲ or ▼ button to select Equalizer.
Press the ENTER/OK (→) button.

Result: The Equalizer menu is displayed.

- 5 Select the required option (balance or equalizer) by pressing the ◀ or ▶ button.
- 6 Press the ▲ or ▼ button until you reach the optimal setting. Press the ENTER/OK (→) button.
- 7 Press the EXIT button to exit.
 - ➤ If you make any changes to the sound settings, the sound standard is automatically switched to **Custom**.
 - ➤ L/R Sound Balance Adjustment

 To adjust the sound balance of the L/R speakers.
 - ◆ Bandwidth Adjustment (100Hz, 300Hz, 1KHz, 3KHz, 10KHz)
 To adjust the level of different bandwidth frequencies.
 - ➤ If Game Mode is On, the Reset Sound function is activated. Selecting the Reset function after setting the equalizer resets the equalizer setting to the factory defaults.







Setting the TruSurround XT







TruSurround XT is a patented SRS technology that solves the problem of playing 5.1 multichannel content over two speakers. TruSurround delivers a compelling, virtual surround sound experience through any two-speaker playback system, including internal television speakers. It is fully compatible with all multichannel formats.

1 Press the **MENU** (**□**) button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select Sound.

Result: The **Sound** menu is displayed.

- 3 Press the ENTER/OK (←) button.
- 4 Press the ▲ or ▼ button to select SRS TSXT.
 Press the ENTER/OK (→) button.
- 5 Select the required option by pressing the ▲ or ▼ button.

Result: The following options are available.

Off - 3D Mono - Stereo

- When you are satisfied with your setting, press the ENTER/OK (글) button.
- 7 Press the EXIT button to exit.
 - ➤ You can select these options simply by pressing the SRS ((♠)) button on the remote control.
 - ➤ TruSurround XT, SRS and (●) Symbol are trademarks of SRS Labs, Inc. TruSurround XT technology is incorporated under license from SRS Labs, Inc.



Adjusting the Volume Automatically





Each broadcasting station has its own signal conditions, and so it is not easy for you to adjust the volume every time the channel is changed. This feature lets you automatically adjust the volume of the desired channel by lowering the sound output when the modulation signal is high or by raising the sound output when the modulation signal is low.

1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Sound**.

Result: The **Sound** menu is displayed.

3 Press the ENTER/OK (→) button.

4 Press the ▲ or ▼ button to select Auto Volume.
Press the ENTER/OK (→) button.

5 Select **off** or **on** by pressing the ▲ or ▼ button. Press the **ENTER/OK** (→) button.

6 Press the EXIT button to exit.

Selecting the Internal Mute

If you want to hear the sound through separate speakers, cancel the internal amplifier.

1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Sound**.

Result: The **Sound** menu is displayed.

- 3 Press the ENTER/OK () button.
- 4 Press the ▲ or ▼ button to select Internal Mute.

 Press the ENTER/OK (→) button.
- 5 Select **off** or **on** by pressing the ▲ or ▼ button. Press the **ENTER/OK** (→) button.
- 6 Press the EXIT button to exit.
 - The VOL +, VOL and Mute buttons do not operate when the Internal Mute is set to On.





Setting the Melody Sound

You can hear melody sound when the television is powered on or off.

- 1 Press the MENU () button.
 - Result: The main menu is displayed.
- 2 Press the ▲ or ▼ button to select **Setup**.
 - Result: The **Setup** menu is displayed.
- 3 Press the ENTER/OK () button.
- Press the ▲ or ▼ button to select Melody. Press the ENTER/OK (→) button.
- 5 Select **off** or **on** by pressing the ▲ or ▼ button. Press the **ENTER/OK** (→) button.
- 6 Press the EXIT button to exit.





Selecting the Sound Mode (depending on the model)



The DUAL I-II button displays/controls the processing and output of the audio signal. When power is switched on, the mode is automatically preset to either "DUAL-I" or "Stereo", depending on the current transmission.

	Type of broadcast	On-screen indication	
	Regular broadcast (Standard audio)	Mono (Normal use)	
NICAM	Regular + NICAM Mono	NICAM Mono ↔ Mono	
Stereo	NICAM stereo	NICAM stereo ←→ Mono (Forced mono)	
	NICAM DUAL-I/II	NICAM DUAL-I → NICAM DUAL-II → Mono	
A2 Stereo	Regular broadcast (Standard audio)	Mono	
	Bilingual or DUAL-I/II	DUAL-I ←→ DUAL-II	
	Stereo	Stereo ←→ Mono (Forced mono)	



- If the receiving conditions deteriorate, listening will be easier if the mode is set to Mono.
- ◆ If the stereo signal is weak and automatic switching occurs, switch to Mono.
- When receiving mono sound in AV mode, connect to the AUDIO-L input connector on the panel (front or side, depending on the model). If mono sound only comes out of the left speaker, press the **DUAL I-II** button.

Setting and Displaying the Current Time

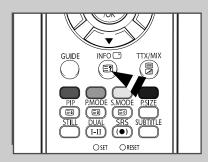
You can set the television's clock so that the current time is displayed by pressing the INFO () button. You must also set the time if you wish to use the automatic on or off timers.

- 1 Press the MENU () button.
 - Result: The main menu is displayed.
- 2 Press the ▲ or ▼ button to select **Setup**.
 - Result: The Setup menu is displayed.
- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select **Time**. Press the **ENTER/OK** (←) button.
 - Result: The Clock Set is selected.
- 5 Press the ENTER/OK (→) button again.
- 6 Press the ◀ or ▶ button to select **Hour** or **Minute**. Set these by pressing the ▲ or ▼ button.
 - You can set the hour and minute directly by pressing the numeric buttons on the remote control.
- When you are satisfied with your setting, press the ENTER/OK () button.
- 8 Press the **EXIT** button to exit.
 - In the event of a power interruption or the set being turned off at the supply, the settings for the Clock will be lost.









Setting the Sleep Timer











You can select a time period of between 30 and 180 minutes after which the television automatically switches to Standby mode.

1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Setup**.

Result: The Setup menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select **Time**. Press the **ENTER/OK** (←) button.

Result: The Time menu is displayed.

- Fress the ▲ or ▼ button to select Sleep Timer. Press the ENTER/OK (→) button.
- Select the preset time interval (off, 30, 60, 90, 120, 150, or 180) for staying on by pressing the ▲ or ▼ button.
 Press the ENTER/OK (→) button.
- 7 Press the **EXIT** button to exit.
 - ➤ You can select these options simply by pressing the SLEEP button on the remote control.
 - If the sleep timer is not yet set, Off is displayed.
 If the sleep timer is already set, the remaining time before which the television switches to standby mode is displayed.

Switching the Television On and Off Automatically

You can set the on or off timers so that the television will:

- Switch on automatically and tune to the channel of your choice at the time you select.
- ♦ Switch off automatically at the time you select.
- The first step is to set the television's clock (refer to "Setting and Displaying the Current Time" on page 43).
- 1 Press the MENU () button.

Result: The main menu is displayed.

2 Press the ▲ or ▼ button to select **Setup**.

Result: The **Setup** menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select **Time**. Press the **ENTER/OK** (→) button.

Result: The **Time** menu is displayed.

Fress the ▲ or ▼ button to select On Timer. Press the ENTER/OK (→) button.

Result: The On Timer menu is displayed.

6 Select Hour, Minute, Programme, or Volume by pressing the ◀ or ▶ button.

Set these by pressing the ▲ or ▼ button.

- You can set the hour and minute directly by pressing the numeric buttons on the remote control.
- 7 Press the ◀ or ▶ button to select **Activation**.
- 8 To activate on Timer with the setting entered, select Yes by pressing the ▲ or ▼ button.
- 9 Press the ENTER/OK () button.

Result: The **Time** menu is displayed again.









continued...







- 10 Press the ▲ or ▼ button to select **off Timer**. Press the **ENTER/OK** (→) button.
 - Result: The **Off Timer** menu is displayed.
- 11 Select **Hour** or **Minute** by pressing the ◀ or ▶ button. Set these by pressing the ▲ or ▼ button.
 - > You can set the hour and minute directly by pressing the numeric buttons on the remote control.
- **12** Press the ◀ or ▶ button to select **Activation**.
- To activate Off Timer with the setting entered, select Yes by pressing the ▲ or ▼ button.
- When you are satisfied with your setting, press the ENTER/OK (→) button.
- 15 Press the **EXIT** button to exit.

> Auto Power Off

When you set the timer "On", the television will eventually turn off, if no controls are operated for 3 hours after the TV was turned on by timer. This function is only available in timer "On" mode and prevents overheating or leakages, which may occur if a TV is on for too long (when you are on vacation, for example).

➤ If no signal is received for 15 minutes, the TV will be automatically turned off.

Viewing an External Signal Source

Use the remote control to switch between viewing signal from connected equipment, such as VCR, DVD, Set-Top box, and the TV source (broadcast or cable).

1 Press the **MENU** () button.

Result: The main menu is displayed.

2 Press the ENTER/OK () button to select Input.

Result: The Input menu is displayed.

3 Press the ENTER/OK () button.

Result: The **Source List** is selected.

Press the ▲ or ▼ button to select the signal source, press the ENTER/OK (→) button.

Result: The available signal sources are listed.

- TV, DTV, Ext.1, Ext.2, Component, PC, or HDMI: on the TV's rear panel.
 - ◆ AV, S-Video: on the TV's side panel.
 - ◆ You can also set these options simply by pressing the SOURCE (-€) button on the remote control.
 - Only connected devices can be selected
- 5 Press the **MENU** () button.

Result: The main menu is displayed.

Press the ENTER/OK () button to select Input.

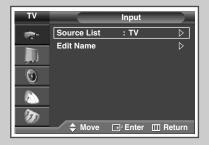
Result: The **Input** menu is displayed agian.

- 7 Press the ▲ or ▼ button to select Edit Name.
 Press the ENTER/OK (→) button.
- 8 Press the ▲ or ▼ button to select external source to be edited. Press the ENTER/OK (←) button.

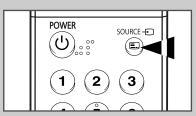
Result: The available device names are listed.

VCR, DVD, D-VHS, Cable STB, HD STB, Satellite STB, AV Receiver, DVD Receiver, Game, Camcorder, DVD Combo, DHR (DVD HDD Recorder), OF PC

- 9 Select the required device by pressing the ▲ or ▼ button. Press the ENTER/OK (♣) button.
- 10 Press the EXIT button to exit.
 - If you change the external source while viewing, pictures might take a short period of time to switch.
 - To watch television programme again, press the TV/DTV button and select the channel number required.













Previewing the DTV Menu System









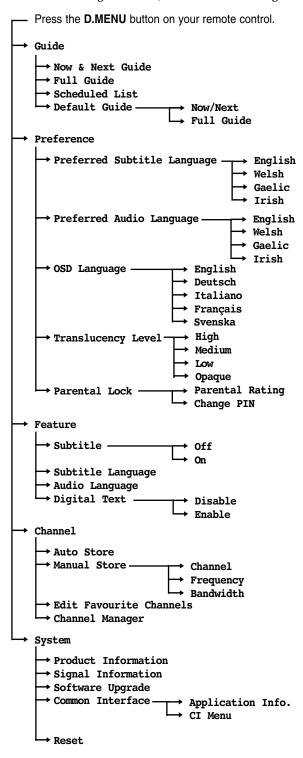




English - 48

Available in DTV mode. Preset to the DTV mode by using the TV/DTV button on your remote control.

To help you navigate around the on-screen menu system and adjust the various settings available, refer to the following illustration.



The sub-items of the CI Menu may vary depending on the CAM model. (refer to page 66)

Updating the Channel List Automatically

You can update the channel list when the broadcaster adds new Services or if you move the TV to a new location.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select Channel.

Result: The Channel menu is displayed.

3 Press the ENTER/OK (→) button.

Result: The **Auto Store** is displayed.

4 Press the ENTER/OK () button again to start the search.

Result: When it has finished, the number of scanned services will be displayed.

- The existing favourite channel list will not be deleted when the channel list is updated.
- ◆ To stop the scan before it has finished, press the ENTER/OK (→) button with stop selected.
- Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.
 - ➣ If the signal status is poor, "No service found! Check the aerial connection." message is displayed.







Updating the Channel List Manually









You can specify the channel or frequency for a fast channel search.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select Channel.

Result: The **Channel** menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select Manual Store.
 Press the ENTER/OK (→) button.

Result: The Manual Store is displayed.

- Fress the ◀ or ▶ button to select Channel, Frequency, or Bandwidth.
 - **♦** Channel

Press the \blacktriangle , \blacktriangledown or numeric buttons (0~9) to select a channel. The available channels are 21~68.

Result: The corresponding frequency for the selected channel is automatically set.

◆ Frequency

You can specify the frequency (KHz) using the numeric buttons (0 \sim 9). If you do not know the exact frequency, follow the above step to select the frequency automatically using channel.

◆ Bandwidth

Press the ▲ or ▼ button to select a bandwidth. The available bandwidths are 7 and 8 MHz.

6 Press the red button to start the scan for digital services.

Result: When it has finished, channels are updated in the channel list.

- 7 Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.
 - You can input by pressing the button on the remote control.
 - You can not change only frequency and when changing a channel the Frequency will be automatically changed.

Editing Your Favourite Channels

➤ In the case of DTV mode, **OK** or **Select** can be used as the **ENTER/OK** (→) button.

You can edit your favourite channels using the colour buttons.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select **Channel**.

Result: The Channel menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select Edit Favourite Channels.
- 5 Press the ENTER/OK () button.

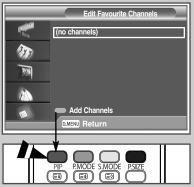
Result: The Edit Favourite Channels menu is displayed.

- **6** Press the red button to display all currently stored channels.
- 7 Press the ▲ or ▼ button to select a channel you want. Press the ENTER/OK (→) button.

Result: A ★ icon is shown next to the selected channel and the channel will be added to the favourites list.

- ➤ To undo, press the ENTER/OK (→) button again.
 - ◆ **Select All**: Select all channels currently displayed.
 - ◆ **Select None**: Deselect all selected channels.
 - Preview: Displays (a) currently selected channel(s).
- The Favourite Channels settings have been completed.
- Press the D.MENU button to return to the previous menu or press the EXIT button to return to normal viewing.







Auto Store Manual Store Edit Favourite Channels Channel Manager Move Figure Enter CMENU Return







♦ Add

You can use this function when one or more favourite channels have been selected.

- 1 Press the **D.MENU** button.
 - Result: The DTV menu is displayed.
- 2 Press the ▲ or ▼ button to select Channel.
 - Result: The Channel menu is displayed.
- 3 Press the ENTER/OK (→ button.
- 4 Press the ▲ or ▼ button to select Edit Favourite Channels.
- 5 Press the ENTER/OK () button.
- 6 Press the red button in the Edit Favourite Channels menu. To add more channels, refer to the step 7 on the previous page.
 - To add all channels to the favourites channel list, press the red button.
 - ◆ To remove all channels, press the green button.
 - ◆ Preview: Displays (a) currently selected channel(s).
 - Press the CH MGR button to display the favourite channel list.
- 7 Press the D.MENU button to return to the previous menu or press the EXIT button to return to normal viewing.

Move

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select Channel.

Result: The Channel menu is displayed.

3 Press the ENTER/OK (→) button.

4 Press the ▲ or ▼ button to select Edit Favourite Channels.

5 Press the ENTER/OK (→) button.

6 Press the ▲ or ▼ button to select the required channel.

7 Press the green button.

Result: A ♦ icon is displayed on the left side of the channel name.

8 Press the ▲ or ▼ button to select the channel that you want to move, then press the green or ENTER/OK (→ button.

Result: The channel is moved to its new position.

9 Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.

◆ Preview

- In the Edit Favourite Channels menu, select the channel to be previewed by pressing the ▲ or ▼ button.
- 2 Press the yellow button.

Result: Displays currently selected channel.

3 Press the D.MENU button to return to the previous menu or press the EXIT button to return to normal viewing.

♦ Delete

- In the Edit Favourite Channels menu, select the channel to be deleted from the favourite channels list by pressing the ▲ or ▼ button.
- 2 Press the blue button.

Result: The selected channel and number will be deleted.

- To add a deleted channel back in to the favourite channel list, see **Add** on page 52.
- 3 Press the D.MENU button to return to the previous menu or press the EXIT button to return to normal viewing.













Viewing Channel Managers







You can display a list of all channels or your favourite channels.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select Channel.

Result: The **Channel** menu is displayed.

3 Press the ENTER/OK (→) button.

4 Press the ▲ or ▼ button to select Channel Manager.

Press the ENTER/OK (→) button.

Result: The channel list is displayed.

It can be displayed simply by pressing the **CH MGR** button.

5 Press the yellow button to toggle between your favourite channels and all channels.

Result: Your favourite channels are only displayed if they were previously set in the Edit Favourite

Channels menu (refer to page 52~53).

6 Press the red or green button to display the previous or next channel list page.

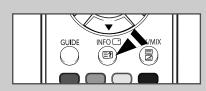
7 Press the ▲ or ▼ button to select a channel to be tuned. Press the ENTER/OK (→) button.

Result:

The channel number, name and an icon are displayed in the top left corner while changing the channel. The channel number and name are displayed if the channel is one of the all channels, and a ★ icon if the channel is one of the favourite channels.

8 Press the blue or **CH MGR** button to exit from the channel list.

Displaying Programme Information





English - 54

While viewing a channel, additional information about the current programme may be displayed.

1 While viewing a programme, press the **INFO** () button.

Result: The programme information is displayed.

The information is displayed:

- Parental Rating

- Video Type: SD, HD, Radio

- Audio Type: MPEG, Dolby-AC3

- Existence of Teletext or DVB Subtitle

- Audio Language

2 To exit from banner information, press the **INFO** () button.

Viewing the EPG (Electronic Programme Guide) Information

The EPG (Electronic Programme Guide) information is provided by the broadcasters. Programme entries may appear blank or out of date as a result of the information broadcast on a given channel. The display will dynamically update as soon as new information becomes available.

♦ Now & Next Guide

For the six channels indicated in the left-hand column, displays the Current programme and the Next programme information.

♦ Full Guide

Displays the programme information as time ordered 30 minute segments. One and half hours of programme information is displayed which may be scrolled forwards or backwards in time.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

- 2 Press the ENTER/OK () button to select Guide.
- 3 Press the ▲ or ▼ button to select Now & Next Guide or Full Guide. Press the ENTER/OK (→) button.

Result: The selected guide menu is displayed.

You can also display the guide menu simply by pressing the GUIDE button.

4 To Then

Watch a programme in the EPG list

- ◆ Select a programme by pressing the ▲/▼/◄/▶ button.
- ◆ Press the ENTER/OK (→) button.
- If the next program is selected, it is scheduled with the clock icon displayed. If the ENTER/OK () button is pressed again, the scheduling is canceled with the clock icon gone. For details about scheduling programmes, refer to the next page.

View programme information

- ♦ Select a programme of your choice by pressing the ▲/▼/◄/▶ button.
- ▶ Press the INFO (□+) button when the programme of your choice is highlighted.

Toggle between the Now & Next Guide Or Full Guide

Press the red button repeatedly.

Display the Favourites and the All Channels list

Press the green button repeatedly.

Scrolls backwards quickly (2 hours).

Press the yellow button repeatedly.

Scrolls forward quickly (2 hours).

lacktriangle Press the blue button repeatedly.

Exit the guide

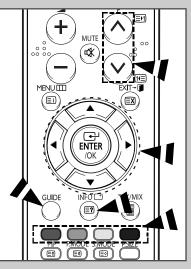
- Press the Exit button.
- ◆ Information such as the channel number, programme title and running time, status bar, and brief summary of the highlighted programme will be displayed in the top right corner of the screen. If there is a lengthy summary, "..." will be displayed. Press the INFO (→) button for the full summary text.
- ◆ Six channels are displayed. To scroll between channels, move to a channel using the ▲ or ▼ button. To display page by page, use the P ⊙ or ⊙ button.











Using the Scheduled List













If you make a scheduled viewing list of programs you may like to see, the channel will be automatically switched to the scheduled program at the scheduled time even if you are watching another program.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

- 2 Press the ENTER/OK () button to select Guide.
- 3 Select the scheduled List by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.

Result: The selected guide menu is displayed.

4 Press the red button to add a new programme.

Result: The menu for adding a programme is displayed with Channel selected.

Press the ▲ or ▼ button to select the required channel. Press the ENTER/OK (→) button.

Result: The **Time** is selected.

Enter the start and stop time of the programme by pressing the numeric button.

You also can use ▲ or ▼ button to select time.

Result: The **Date** is selected automatically, even if any button is not pressed.

Press the ▲ or ▼ button to select the required date. Press the ENTER/OK (→) button.

Result: The **Frequency** is selected.

continued....

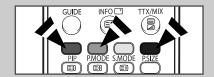
- 8 Press the ▲ or ▼ button to select the required frequency (Once, Daily, or Weekly).
- 9 When you are satisfied with your settings, save the adjusted schedule by pressing the red button.

Result: The scheduled list is displayed again.

- 10 If you want to edit the scheduled programme, select a programme by pressing the ▲ or ▼ button. Press the green button. If necessary, select the programme to be deleted by pressing the ▲ or ▼ button. Press the blue button.
- 11 Repeat step 4 to 9 for other programme to be added to the scheduled list.
 - When watching analog TV, the reserved DTV channel cannot be changed. The channel is only changed automatically to the reserved channel when you are watching DTV.
 - Scheduling programme only functions with the television already turned on, and not from standby mode. For details about switching the television on and off automatically, refer to page 12.







Setting the Default Guide

You can preset the default guide style.

1 Press the **D.MENU** button.

> Result: The DTV menu is displayed.

- 2 Press the ENTER/OK () button to select Guide.
- 3 Press the ▲ or ▼ button to select **Default Guide**. Press the **ENTER/OK** (→) button.
- 4 Select the required option (Now & Next Guide or Full Guide) by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.

Result: The selected option is stored and the preset/default

channel list in the EPG menu and channel list will be displayed.

5 Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.





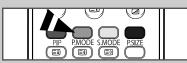


English - 57

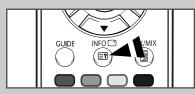
Viewing All Channels and Favourite Channels













In the EPG menu, you can display all channels or favourite channels.

1 Press the **D.MENU** button.

Result: The **Guide** menu is displayed.

- 2 Press the ENTER/OK () button to select Guide.
- 3 Press the ▲ or ▼ button to select Now & Next Guide or Full Guide. Press the ENTER/OK (→) button.

Result: The selected guide menu is displayed.

- 4 Press the green button repeatedly to toggle between the all and favourite channels list.
- 5 Select a programme of your choice by pressing the ▲/▼/◄/▶ button.
- **6** Press the **INFO** () button to display information about the highlighted programme.

Result: The available programme information is displayed.

- 7 When the favourite channel list has not been set up:
 - The favourites list is empty. Would you like to choose your favourites now? message is displayed.
 - ♦ Select Yes.

Result: The Edit Favourite Channels menu is

displayed. If you select \mathbf{No} , all channels will remain unchanged.

- To edit the favourite channels, refer to page 51~53 for more details.
- 8 Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.
 - ➤ All Channels is the list of channels that have been scanned by the channel list update. All channels are displayed in the all channel mode.
 - ◆ **Favourites** (favourite channels) is the list of channels that has been set in the **Edit Favourite Channels** menu (refer to page 51~53).
 - ◆ When there is no channel information, the No Data message will be displayed and you will not be able to change the channel even if you press the ENTER/OK(→) button.

When the **No Data** message appears and you cannot change the channel, press the channel number directly using the numeric buttons.

Setting the Preferred Languages

Using this feature, users can select one of the four languages (English, Welsh, Gaelic, Irish). The language selected here is the default when the user selects a channel.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select Preference.

Result: The **Preference** menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Select your required menu by pressing the ▲ or ▼ button.
 - ◆ Preferred Subtitle Language
 - ◆ Preferred Audio Language
- 5 Press the ENTER/OK (→) button.

Result: The options of the selected menu are displayed.

- 6 Select the required option by pressing the ▲ or ▼ button, and press the ENTER/OK (→) button to change the setting.
 - ◆ Preferred Subtitle Language : English, Welsh, Gaelic, Irish
 - Preferred Audio Language : English, Welsh, Gaelic, Irish
 - ➤ If you change the language setting, the Subtitle Language and the Audio Language of the features menu (refer to page 62) are automatically changed to the selected language.
 - ◆ The Subtitle Language and the Audio Language of the features menu show a list of languages supported by the current channel and the selection is highlighted. If you change this language setting, the new selection is only valid for the current channel. The changed setting does not change the setting of the Preferred Subtitle Language or the Preferred Audio Language of the preference menu.
- 7 Press the D.MENU button to return to the previous menu or press the EXIT button to return to normal viewing.







Choosing Your Language





When you start using your DTV for the first time, you must select the language which will be used for displaying menus and indications.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select **Preference**.

Result: The **Preference** menu is displayed.

- 3 Press the ENTER/OK (→) button.
- 4 Press the ▲ or ▼ button to select **OSD Language**. Press the **ENTER/OK** (→) button.
- 5 Select a particular language by pressing the ▲ or ▼ button repeatedly. Press the ENTER/OK (→) button to change the setting.
 - You can choose one of 5 languages.
- Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.

Adjusting the Translucency Level





You can set the translucency of the on-screen menu.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select Preference.

Result: The **Preference** menu is displayed.

- 3 Press the ENTER/OK () button.
- Press the ▲ or ▼ button to select Translucency Level.

 Press the ENTER/OK () button.
- 5 Select the required option(High, Medium, Low, or Opaque) by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button to change the setting.
- Press the D.MENU button to return to the previous menu or press the EXIT button to return to normal viewing.

Setting up the Parental Lock

This feature allows you to prevent unauthorized users, such as children, from watching unsuitable programmes by a 4-digit PIN (Personal Identification Number) code that is defined by the user. The on-screen menu will instruct you to assign a PIN code (you can change it later, if necessary).

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select **Preference**.

Result: The **Preference** menu is displayed.

3 Press the ENTER/OK (→) button.

Press the ▲ or ▼ button to select Parental Lock. Press the ENTER/OK (→) button.

Result: The Enter PIN is displayed.

5 Enter your current 4-digit PIN code by using the numeric buttons (0~9).

Result: The Parental Lock menu are displayed with the Parental Rating selected.

- The default PIN code for a new TV set is 0000.
 - If you enter an invalid PIN code, the Invalid PIN code.
 Please try again. message is displayed.
- 6 Press the ENTER/OK button.
- Press the ▲ or ▼ button to select the age rating you want to lock out.

Press the **ENTER/OK** (→) button.

8 If you want to change the PIN code,select **Change PIN** by pressing the ▲ or ▼ button. Press the **ENTER/OK** (—) button.

Result: The Enter New PIN is displayed.

9 Enter your new PIN code by using the numeric buttons (0~9).

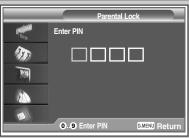
Result: The Confirm New PIN is displayed.

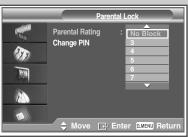
10 Re-enter your new PIN code to confirm by using the numeric buttons (0~9).

Result: The Your PIN code has been changed successfully message is displayed.

- 11 Press the ENTER/OK () button.
- 12 Press the D.MENU button to return to the previous menu or press the EXIT button to return to normal viewing.
 - If you forget the PIN code, press the remote control buttons in the following sequence, which resets the PIN to **0-0-0-0**: **POWER** (Off), **MUTE**, **8**, **2**, **4**, **POWER** (On)













Using the Preferred Features













English - 62

You can use various settings to suit your personal preferences.

- **♦** Activating/deactivating the subtitle
- Changing the default value for subtitle and audio languages
- ◆ Activating/deactivating the digital text

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the **▲** or **▼** button to select **Feature**.

Result: The Feature menu is displayed.

- 3 Press the ENTER/OK () button.
- 4 Select your required menu by pressing the ▲ or ▼ button.
 - **♦** Subtitle
 - ◆ Subtitle Language
 - ◆ Audio Language
 - ◆ Digital Text
- 5 Press the ENTER/OK () button.

Result: The options of the selected menu are displayed.

- 6 Select the required option by pressing the ▲ or ▼ button, and press the ENTER/OK (→) button to change the setting.
 - ◆ Subtitle : On or Off
 - ◆ Subtitle Language
 - Audio Language
 - ◆ Digital Text : Disable Or Enable
 - If the programme is broadcast with digital text, this feature is enabled.
- Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.

◆ MHEG(Multimedia and Hypermedia Information Coding Experts Group)?

An International standard for data encoding systems used in multimedia and hypermedia. This is at a higher level than the MPEG system which includes data-linking hypermedia such as still images, character service, animation, graphic and video files as well as multimedia data. MHEG is user runtime interaction technology and is being applied to various fields including VOD (Video-On-Demand), ITV (Interactive TV), EC (Electronic Commerce), tele-education, tele-conferencing, digital libraries and network games.

Checking the Product Information

You can view your product information. For service or repair, please contact a Samsung approved dealer.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select System.

Result: The System menu is displayed.

3 Press the ENTER/OK (←) button.

Result: The **Product Information** is selected.

4 Press the ENTER/OK () button again.

Result: The product information menu is displayed.

- Software Version

- Firmware Version

- Hardware Version

Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.





Checking the Signal Information

You can get information about the signal status.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select System.

Result: The **System** menu is displayed.

- 3 Press the ENTER/OK (←) button.
- Press the ▲ or ▼ button to select Signal Information. Press the ENTER/OK (→) button.

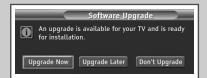
Result: The technical information for signal status is displayed.

- Service
 - Service ID
 - Multiplex
 - Network
 - Bit Error Level
 - Signal Strength
- Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.





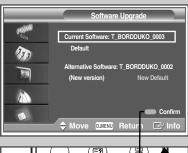
Upgrading the Software (Option)















To keep your product up-to-date with new Digital Television features then software upgrades are periodically broadcast as part of the normal Television signal. It will automatically detect these signals and display the software upgrade banner. You are given the option to install the upgrade.

♦ Upgrade Now

If you select **Upgrade Now**, the **iDTV** immediately installs the new upgrade and then restarts.

♦ Upgrade Later

If you select **Upgrade Later**, the upgrade is postponed until the next restart or channel change some 90 minutes later, when the upgrade dialog appears again.

♦ Don't Upgrade

If you select **Don't Upgrade**, the **iDTV** does not perform the upgrade and the software upgrade banner is not displayed again. The upgrade is still stored internally, to subsequently upgrade to the new version then the following sequence of steps are performed.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select System.

Result: The **System** menu is displayed.

- 3 Press the ENTER/OK () button.
- Press the ▲ or ▼ button to select Software Upgrade. Press the ENTER/OK (→) button.

Result: The information for **Software Upgrade** is displayed.

- 5 If necessary, press the ENTER/OK () button again to display the software version information.
- 6 Press the D.MENU button to return to the Software Upgrade menu.
- 7 To switch to an alternative version, press the red button. Press the blue button to reset, activate the upgrade and restart.
- 8 Press the D.MENU button to return to the previous menu or press the EXIT button to return to normal viewing.

Viewing Common Interface

This contains information on CAM inserted in the CI slot and displays it.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select System.

Result: The System menu is displayed.

- 3 Press the ENTER/OK () button.
- 4 Press the ▲ or ▼ button to select Common Interface. Press the ENTER/OK (→) button.

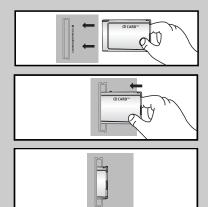
Result: The Application Info. is selected.

- Fress the ENTER/OK (→) button to display the information for your application.
- Press the D.MENU button to return to the previous menu or press the EXIT button to return to normal viewing.
 - ➤ The Application Info inserting is about the CI CARD.
 - You can install the CAM anytime whether the TV is ON or OFF.
 - 1. Purchase the CI CAM module by visiting your nearest dealer or by phone.
 - 2. Insert the CI CARD into the CAM in the direction of the arrow until it fits.
 - 3. Insert the CAM with the CI CARD installed into the common interface slot. (Insert the CAM in the direction of the arrow, right up to the end so that it is parallel with the slot.)
 - 4. Check if you can see a picture on a scrambled signal channel.

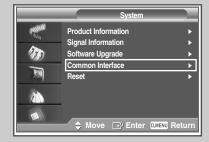




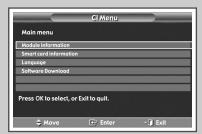




Selecting the CI (Common Interface) Menu







This helps the user select an item from the CAM-supported menu.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select System.

Result: The System menu is displayed.

- 3 Press the ENTER/OK () button.
- 4 Press the ▲ or ▼ button to select Common Interface. Press the ENTER/OK (→) button.

Result: The technical information for signal status is displayed.

5 Press the ▲ or ▼ button to select CI Menu. Press the ENTER/OK (→) button.

Result: The options of the selected menu are displayed.

- 6 Select the required option by pressing the ▲ or ▼ button. Press the ENTER/OK (→) button.
- 7 Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.
 - Select the CI Menu based on the menu PC Card.
 - ➤ In the case of DTV mode, **OK** or **Select** can be used as the **ENTER/OK** (→) button.

Resetting

You can reset the values stored to the factory default values.

➤ The Reset operation deletes all channel information and user preferences returning all values to their default factory state.

1 Press the **D.MENU** button.

Result: The DTV menu is displayed.

2 Press the ▲ or ▼ button to select System.

Result: The System menu is displayed.

3 Press the ENTER/OK () button.

4 Press the ▲ or ▼ button to select **Reset**. Press the **ENTER/OK** (♣) button.

Result: The **Enter PIN** is displayed.

5 Enter your current 4-digit PIN code by using the numeric buttons (0~9).

Result: The warning message is displayed. All values will be

reset by pressing the coloured buttons (red,green,

yellow, and blue) in turn.

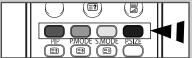
Press the **D.MENU** button to return to the previous menu or press the **EXIT** button to return to normal viewing.

- The default PIN of a new TV set is "0-0-0-0".
- When PIN is changed in Child Lock, the PIN for resetting automatically changes.









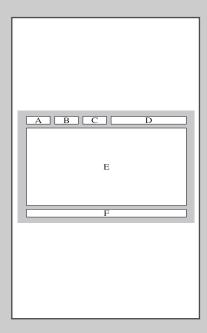
Freezing the Current Picture

You can freeze the picture when watching a television programme simply by pressing the "STILL" button. To return to normal viewing, press it again.

To prevent screen burn-in, this function will automatically cancel after 5 minutes.



Teletext Feature



Most television channels provide written information services via teletext. Information provided includes:

- **♦** Television programme times
- News bulletins and weather forecasts
- ♦ Sports results
- **♦** Travel information

The teletext pages are organized according to six categories:

Part	Contents
А	Selected page number.
В	Broadcasting channel identity.
С	Current page number or search indications.
D	Date and time.
Е	Text.
F	Status information.
	FASTEXT information.

- ➤ Teletext information is often divided between several pages displayed in sequence, which can be accessed by:
 - ◆ Entering the page number
 - ◆ Selecting a title in a list
 - ◆ Selecting a coloured heading (FASTEXT system)

Displaying the Teletext Information

You can display Teletext information at any time on your television.

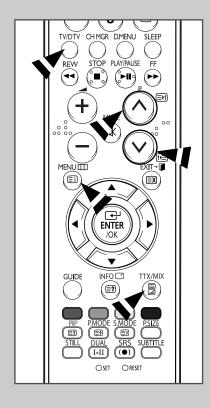
- For Teletext information to be displayed correctly, channel reception must be stable; otherwise:
 - ◆ Information may be missing
 - ◆ Some pages may not be displayed
- Select the channel providing the Teletext service by pressing the P → or → button.
- 2 Press the TTX/MIX () button to activate the teletext mode.

Result: The contents page is displayed. It can be redisplayed at any time by pressing the MENU button.

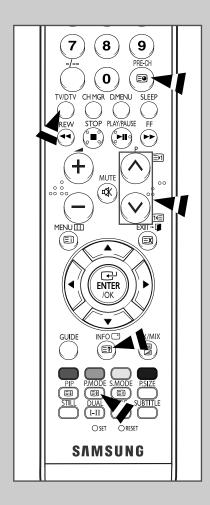
3 Press the TTX/MIX () button again.

Result: The screen will be split into two. This Double Teletext feature lets you view the actual broadcast and teletext information separately on the screen.

- 4 If you wish to display the actual broadcast and teletext information on a single screen, press the **TTX/MIX** () button again.
- 5 To exit from the teletext display, press the **TV/DTV** button.



Selecting Display Options



When you have displayed a Teletext page, you can select various options to suit your requirements.

To display	Press the
Hidden text (answers to quiz games, for example)	(reveal)
◆ The normal screen	(reveal) again
◆ A secondary page	(sub-page)
◆ The broadcast when searching for a page	(cancel)
◆ The next page	(page up)
◆ The previous page	(page down)
 Double-size letters in the: Upper half of the screen Lower half of the screen 	 (size) Once Twice
◆ Normal screen	Three times

> To return to the normal display after using the reveal or size feature, press the **TV/DTV** button.

Selecting a Teletext Page

You can enter the page number directly by pressing the numeric buttons on the remote control.

1 Enter the three-digit page number given in the content by pressing the corresponding numeric buttons.

Result:

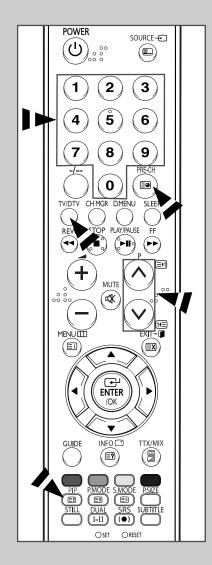
The current page counter is incremented and the page is then displayed. If the selected page is linked with several secondary pages, the secondary pages are displayed in sequence. To freeze the display on a given page, press the (F) (hold). Press it again to resume.

2 If the FASTEXT system is used by a broadcasting company, the different topics covered on a Teletext page are colour-coded and can be selected by pressing the coloured buttons on the remote control.

Press the coloured button corresponding to the topic that you wish to select; the available topics are given in the status line.

Result: The page is displayed with other coloured information that can be selected in the same way.

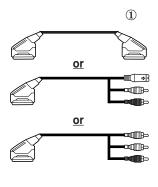
- 3 To display the previous or next page, press the corresponding coloured button.
- 4 To display the sub-page, see the following steps.
 - Press the (sub-page) button.
 Result: The available sub-pages appear.
- When you have finished, press the TV/DTV button to return to your normal broadcast.

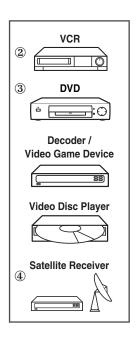


Connecting to the External Input/Output

"EXT 1" is used for the equipment with an RGB output, such as video game devices or video disc players.

Rear of the TV





- ① This end can be fitted with:
 - ♦ A SCART connector
 - An S-Video connector and two audio RCA connectors (L+R); EXT 2
 - ◆ Three RCA connectors (VIDEO + AUDIO-L and R)
- ② If you have a second VCR and wish to copy cassette tapes, connect the source VCR to EXT 1 and the target VCR to EXT 2 so that you can redirect the signal from EXT 1 to EXT 2.
- ③ If you have a decoder, connect the decoder to the VCR and the VCR to the television.
- When you wish to record a programme, connect the receiver to EXT 1 and the VCR to EXT 2 so that you can redirect the signal from EXT 1 to EXT 2.
- > Please be sure to match the colour coded input terminals and cable jacks.

Input/Output Specification

Input		Output		
Video	Audio (L/R)	S-Video	RGB	Video + Audio (L/R)
~	v	~	✓	Only TV output is available.
V	V	V		Monitor output
	V	Video Audio (L/R)	Video Audio (L/R) S-Video	Video Audio (L/R) S-Video RGB



Whenever you connect an audio or video system to your television, ensure that <u>all</u> elements are switched <u>off</u>.

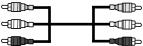
Refer to the documentation supplied with your equipment for detailed connection instructions and associated safety precautions.

Connecting to the RCA Input

The RCA (VIDEO + AUDIO L /R) connectors are used for equipment, such as camcorders, video disc players, and some video game devices.





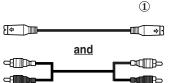


Video disc player
➤ Please be sure to match the colour coded input terminals and cable jacks.

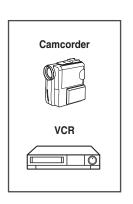
Connecting to the S-Video Input

The S-VIDEO and AUDIO L /R connectors are used for equipment with an S-Video output, such as a camcorder or VCR.





- To play pictures and sound, both the S-VIDEO and AUDIO L /R connectors must be used.
- ➤ Please be sure to match the colour coded input terminals and cable jacks.



Camcorder

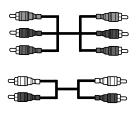
Video game device

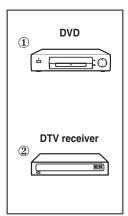
Whenever you connect an audio or video system to your television, ensure that <u>all</u> elements are switched <u>off</u>. Refer to the documentation supplied with your equipment for detailed connection instructions and associated safety precautions.

Connecting to the Component Input

Rear of the TV







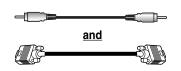
- ① The **COMPONENT IN** connectors are used for equipment with a DVD or DTV receiver output. (480i, 480p, 576i, 576p, 720p, 1080i)
- ➤ Please be sure to match the colour coded input terminals and cable jacks.

Connecting to the PC Input

The PC IN (video) and AUDIO connectors are used for interfacing with your PC.

Rear of the TV







Connecting to the HDMI (High Definition Multimedia Interface) Input

The **HDMI/DVI IN** connector is used for equipment with an HDMI out.

Rear of the TV





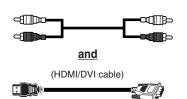


Connecting to the HDMI/DVI Compatible

> The HDMI/DVI IN connector is used for equipment with a DVI out.

Rear of the TV







Connecting a Digital Audio System

If your audio system has an optical digital audio input, connect to the **OPTICAL** jack on the TV. (Only DTV output is available.)

Rear of the TV







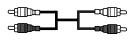
➤ OPTICAL: converts the electric signal into an optical light signal, and transmits it through glass fibers. A transmission system of digital audio in the form of a light wave, S/PDIF format using a glass conductor.

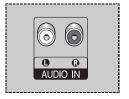
Connecting Home Theater System

Use the AV OUT ports of the TV for Home Theater System Connections.

Rear of the TV







Connecting the Home Theater System

- ① Connect the monitoring audio out L and R jacks of the **AUDIO**OUT on the rear-side connection panel of the TV to the AUDIO
 IN jacks of the DVD Home Theater System (or AV Receiver)
 using the audio cable.
- ② Press the SOURCE (—) button to select the desired external device connected to the TV.
- ③ If you want to hear the sound through separate speakers, cancel the internal amplifier.
 - ➤ Please be sure to match the colour coded input terminals and cable jacks.



- Refer to corresponding user's manual from the manufacturer for wiring the speakers to the DVD Home Theater System (or AV Receiver).
- Disable the TV internal speaker to enjoy the rich sound through the speakers of your Home Theater System.

To Display the DVD Home Theater

- ① Turn the TV on and press the SOURCE (-) button to select the Ext.1, Ext.2 or Component IN.
- ② Be sure to connect the video cable properly if desired external input (Ext.1, Ext.2 or Component IN) cannot be selected.
- 3 Play the DVD after activating the DVD Home Theater System.
- Use the volume control of the Home Theater System while watching the TV using the DVD Home Theater, where the TV does not produce the audio.



Setting up Your PC Software (Windows only)

The Windows display-settings for a typical computer are shown below. But the actual screens on your PC will probably be different, depending upon your particular version of Windows and your particular video card. But even if your actual screens look different, the same, basic set-up information will apply in almost all cases. (If not, contact your computer manufacturer or Samsung Dealer.)

 Right click the mouse on the Windows Desktop, then click on Properties.
 The Display Properties will be displayed.

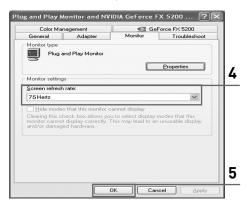


Ţ

- 2 Click on Settings tab, then set the Display Mode with reference to the Display Modes Table. You do not need to change the Colours settings.
- Click on Advanced. A new settings dialog box will be displayed.
- 4 Click on the **Monitor** tab, then set the **Screen** refresh rate with reference to the Display Modes Table. Set the Vertical Frequency and Horizontal Frequency individually if you can do so instead of setting the **Screen refresh rate**.
- 5 Click on OK to close the window, then Click on OK button to the Display Properties window. Automatic re-booting may commence at this moment.
- 6 Shutdown the PC, and connect it to your TV. ("Connecting to the PC Input" on page 74)
- The actual screens on your PC may look different, depending on your particular version of Windows and the type of your PC.
 - When you use your TV as a PC monitor, it supports Colours up to 32 bits.
 - In this case, the display on the TV may look different depending on your particular version of Windows or the PC manufacturer.
 - When connecting a PC you must set it to the display settings that are supported by the TV. Otherwise, the message Out of input range will be displayed.







PC Input Mode

Both screen position and size will vary depending on the type of PC monitor and its resolution. The table below shows all of the display modes that are supported:

Standard	Resolution	Horizontal frequency (kHz)	Vertical frequency (kHz)	Pixel Clock (MHz)	Sync Polarity (H/V)
VGA	720 x 400	31.47	70.00	28.322	-/-
	640 x 480	31.47	60.00	25.175	-/+
		35.00	66.70	30.24	-/-
		37.86	72.80	31.50	-/-
		37.50	75.00	31.50	-/-
		43.27	85.00	36.00	-/-
SVGA	800 x 600	35.16	56.30	36.00	-+/-
		37.88	60.30	40.00	+/+-
		48.08	72.20	50.00	+/+
		46.87	75.00	49.50	+/+
		53.67	85.10	56.25	+/+
	832 x 624	49.73	74.60	57.284	-/+
XGA	1024 x 768	48.36	60.00	65.00	-/-
		56.40	70.10	75.00	-/-
		57.80	72.00	74.99	-/-
		60.02	75.00	78.75	+/-

◆ The interlace mode is not supported.

Notes

- When this television is used as a PC display, 24-bit colour is supported (over 16 million colours).
- Your PC display screen might appear different depending on the manufacturer (and your particular version of Windows). Check your PC instruction book for information about connecting your PC to a television.
- ◆ If a vertical and horizontal frequency-select mode exists, select 60Hz (vertical) and 31.5kHz (horizontal). In some cases, abnormal signals (such as stripes) might appear on the screen when the PC power is turned off (or if the PC is disconnected). If so, press the **SOURCE** (→E) button to enter the Video mode. Also, make sure that the PC is connected.
- When connecting a notebook PC to the television, make sure that the PC screen is displayed through only the television (Otherwise, random signals might appear). It depends on the note PC model.
- When horizontal synchronous signals seem irregular in PC mode, check PC power saving mode or cable connections.

Replacing the Lamp

- 1 Unplug TV, then use a screwdriver to remove the screw.
- 2 Remove the Lamp cover.
- **3** Remove the screws securing the Lamp by using a screwdriver.
- Separate the Lamp from the engine by holding the handle and pulling it out
- 5 To reinstall the Lamp, follow these steps in reverse order.
 - Why do I need to replace the lamp? The lamp used in a projection TV has a limited lifespan. For the best screen quality it needs to be replaced periodically. After replacing the lamp, the screen quality will be bright and clear as new.
 - When do I need to replace it? It should be replaced when the screen becomes darker, less clear or when all three LEDs on the front (TIMER, LAMP and STAND BY/TEMP) are flashing.
 - Check before lamp replacement
 - Turn the power off and wait for 30 minutes before replacing the lamp as it will be hot.
 - The lamp must be the same code to avoid damage to the TV. The lamp code is indicated on the lamp case or the side of TV.
 - After checking the lamp code, give to the store where you purchased the TV or to a Samsung Service Center.

Caution

- Do not touch the glass part of the lamp with your bare hands nor insert any foreign object inside the cover as it may cause poor screen quality, electric shock or fire.
- Do not place the old lamp near flammable objects or within the reach of children.
- Don't allow dirt or dust to accumulate inside the lamp cover or on the lamp. A dirty cover or lamp can catch fire, explode and cause electric shock.
- If a new lamp is improperly handled, the screen quality can be affected and the expected lifespan of the lamp can be reduced.
- Be sure to tighten the lamp cover on the TV after changing the lamp. Note that the TV will not function if the lamp cover is not securely attached. Please tighten the holding screw on the lamp cover after it has been attached to the TV.











Troubleshooting: Before Contacting Service Personnel

Before contacting Samsung after-sales service, perform the following simple checks.

If you cannot solve the problem using the instructions below, note the model and serial number of the television and contact your local dealer.

No sound or picture	 ◆ Check that the mains lead has been connected to a wall socket. ◆ Check that you have pressed the power button (On/Off) and the POWER (③) button. ◆ Check the picture contrast and brightness settings. ◆ Check the volume. ◆ Check if Internal Mute is set to ON.
Normal picture but no sound	 ◆ Check the volume. ◆ Check whether the volume MUTE (□(★)) button on the remote control has been pressed.
No picture or black and white picture	 Adjust the colour settings. Check that the broadcast system selected is correct.
Sound and picture interference	 Try to identify the electrical appliance that is affecting the television, then move it further away. Plug your television into a different mains socket.
Blurred or snowy picture, distorted sound	 Check the direction, location and connections of your aerial. This interference often occurs due to the use of an indoor aerial.
Remote control malfunctions	 Replace the remote control batteries. Clean the upper edge of the remote control (transmission window). Check the battery terminals.
Screen is black and power indicator light blinks steadily	 On your computer check; Power, Signal Cable. The TV is using its power management system. Move the computer's mouse or press any key on the keyboard.
	 On your equipment check (STB, DVD, etc); Power, Signal Cable. The TV is using its power management system. Press the SOURCE (-) button on the panel or remote control. Turn the TV off and on.

Technical Specifications

The descriptions and characteristics in this booklet are given for information purposes only and are subject to modification without notice.

Model name	SP50L6HD	SP67L6HD	SP56K3HD	
Colour systems	PAL, SECAM, NTSC4.43			
TV standards	BG, DK, I, L			
Audio output power	15 W + 15 W		10 W + 10 W	
Dimensions (W x D x H)	1182 x 354 x 869.7 mm	1584 x 502.5 x 1144.5 mm	1330 x 388.5 x 961.7 mm	
Weights	33 kg	47.5 kg	35 kg	

This page is intentionally left blank.



Correct Disposal of This Product

(Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.



Samsung Eco-mark

The Samsung's own Eco mark helps consumers to easily understand that Samsung develops eco-friendly products. This mark represents Samsung's continuous effort to develop eco-friendly products.



Contact SAMSUNG WORLD-WIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care centre.

Country	Customer Care Centre @	Web Site
BELGIUM	02 201 2418	www.samsung.com/be
CZECH REPUBLIC	844 000 844	www.samsung.com/cz
DENMARK	38 322 887	www.samsung.com/dk
FINLAND	09 693 79 554	www.samsung.com/fi
FRANCE	08 25 08 65 65 (€ 0,15/Min)	www.samsung.com/fr
GERMANY	01805 - 121213 (€ 0,12/Min)	www.samsung.de
HUNGARY	06 40 985 985	www.samsung.com/hu
ITALIA	199 153 153	www.samsung.com/it
LUXEMBURG	02 261 03 710	www.samsung.lu
NETHERLANDS	0900 20 200 88 (€ 0,10/Min)	www.samsung.com/nl
NORWAY	231 627 22	www.samsung.com/no
POLAND	0 801 801 881	www.samsung.com/pl
PORTUGAL	80 8 200 128	www.samsung.com/pt
RUSSIA	8-800-200-0400	www.samsung.ru
SLOVAKIA	0850 123 989	www.samsung.com/sk
SPAIN	902 10 11 30	www.samsung.com/es
SWEDEN	08 585 367 87	www.samsung.com/se
U.K	0870 242 0303	www.samsung.com/uk
UKRAINE	8-800-502-0000	www.samsung.com/ur